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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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BANNER & WITCOFF
1001 G STREET N W
SUITE 1100
WASHINGTON, DC 20001

EXAMINER

BAYERL, RAYMOND J

ART UNIT	PAPER NUMBER
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2173

DATE MAILED: 03/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/995,649

Applicant(s)

HIIPAKKA, JARMO

Examiner

Raymond J. Bayerl

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— The MAILING DATE of this communication appears on the cover sheet with the correspondence address —
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 October 2004, 10 December 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 - 46, 48 is/are pending in the application.
- 4a) Of the above claim(s) is/are withdrawn from consideration.
- 5) ☐ Claim(s) is/are allowed.
- 6) ☒ Claim(s) 1 - 4, 6 - 31, 33 - 35, 38, 42 - 46, 48 is/are rejected.
- 7) ☒ Claim(s) 5, 32, 36 - 37, 39 - 41 is/are objected to.
- 8) ☐ Claim(s) are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. .
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

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1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. Claims 1, 4, 10, 12 – 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leonowich ("Leonowich"; US #6,195,004 B1) in view of Hirohama ("Hirohama"; US #5,797,125).

As per independent claim 1's "providing an audio user interface for a mobile terminal", Leonowich's DISTRIBUTED EARCON LOCAL AREA NETWORK allows a monitoring user to be apprised of events, via a device that is specifically placed or carried by a user resulting in the user being informed of all events occurring within the network (Abstract; see also Leonowich's reference numeral 42, fig 2, from which audio emanations alert the user). Significantly in Leonowich, assigning distinct audio sounds to represent events executed by a device (col 1, line 57 – col 2, line 2) reads upon the "message associated with at least one corresponding auditory icon".

While Leonowich contains identical disclosure of "prioritizing the plurality of messages" by using a threshold status level that would have to be met in order for another device's signal to be transmitted from that device, and thus make its way to the device 42 (col 3, lines 45 – 61), this is not "prioritizing...based on at least one context value".

However, in the VOICE GUIDE SYSTEM INCLUDING PORTABLE TERMINAL UNITS that is taught in Hirohama, a "mobile terminal" responds according to its location relative to different guide areas and also the languages needed by individual users (see also col 3, line 61 – col 4, line 39).

Thus, it would have been obvious to a person having ordinary skill in the art at the time of applicant's invention to base the presentation of Leonowich's EARCON information upon "context"-sensitive criteria, as in the Hirohama VOICE GUIDE, for this makes the resulting "mobile terminal" all the more pertinent to individual user needs.

In customizing the languages for guide areas, the PORTABLE TERMINAL UNITS of Hirohama carry out "comparing" the terminal's preferences to the available audio content, and thus, impose a "context value" as in claim 4. In so doing, claim 13's "ordering each received message in order of matching to the context value" occurs, since the messages that are desirable in the user context are presented first.

The audio equipment of the Leonowich/Hirohama combination must at least be "monophonic" in generating the Leonowich "auditory icon" (claim 10; this is also applicable to claim 29 below).

The GUIDE information that is output by Hirohama reads upon claim 12's "streaming additional descriptive audio information"; as it does as well upon the similar language in claim 31. When the Leonowich device 42 picks up a "message", it is receiving an indication of "the corresponding auditory icon" (claim 14), in which "identifying" the icon for rendering occurs (claim 15).

Independent claim 16 is similar in many regards to claim 1, but is alternatively embodied as "identifying at least one best match message based on the at least one context value". But this is what Hirohama does, in picking the language-matched item of guide information.

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3. Claims 33, 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leonowich in view of Hilpert, Jr. et al. ("Hilpert"; US #6,404,442 B1).

As per the "mobile terminal" functionality claimed in independent claim 33 (see also independent claim 48), it has been noted above that an "auditory icon" is output from the Leonowich device 42, responsive to an elevated relevance of a message that prompts it. Yet Leonowich alone does not fairly teach the correlation of "visual icons" with "an associated auditory icon", to allow the user "to select at least one of the visual icons" and then hear its "auditory icon".

However, Hilpert's IMAGE FINDING ENABLEMENT WITH PROJECTED AUDIO remedies this lack—sounds are projected or rendered in space surrounding a computer system to provide information concerning various aspects of information displayed on the computer system display screen (Abstract). Thus, a screen like Hilpert's fig 3, with its assortment of "visual icons", is projected into an auditory space such as fig 6's, to assist the user (see also col 2, lines 8 – 26).

Thus, it would have also been obvious to a person having ordinary skill in the art at the time of applicant's invention to use the display screen/auditory association of Hilpert in the environment of Leonowich's messaging, with the motivation being to give the user a dual-format "terminal" that allows visual confirmation and intuitive spatial distribution of effect.

4. Claims 2 – 3, 6 – 9, 11, 17 – 31, 34 – 35, 38, 42 – 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leonowich in view of Hirohama and Hilpert.

The Leonowich/Hirohama combination does not contain **explicit** teachings of “visual icon”/“auditory icon” association (claims 2, 17, 21; see also independent claim 18), “presenting a spatial position” (claims 6, 25) to a user, as by “stereo amplitude panning” (claims 7, 26), “acoustic modeling and auralization” (claims 8, 27), or a “stereophonic mode” (claims 9, 28). However, as noted above in the characterization of Hilpert, this form of audio rendering was known in the art and developed so as to increase user intuitiveness. (It should be noted, too, that a “first icon” in Hilpert can certainly be “enlarged in relation to other icons” (claims 3, 44), simply by its static specification.)

Thus, it would have been still further obvious to the person having ordinary skill in the art to use the specific audio projection of Hilpert in the EARCON-presenting Leonowich arrangement, when modified to create a “context”-based “prioritizing” as per Hirohama, with the motivation being to aid the Leonowich user in responding to the “messages” that are transmitted to device 42, the “mobile terminal”.

In a similar line of reasoning, it would have been obvious to the person having ordinary skill in the art to render the iconic indications of Hilpert via “text-to-speech (TTS) synthesis” (claims 11, 30), so as to give a better rendering of textual material on a screen such as Hilpert’s fig 3, which depicts claim 20’s “navigation bar” (see also claim 43).

Independent claim 19 is similar in many respects to the “match”-based embodiment of claim 16, but also adds the “visual icon”/“auditory icon” association, thus reading upon Hilpert in combination.

As time progresses in any interface such as Leonowich, Hirohama or Hilpert, a repetitive sequence resulting in "updating" the "icons" must occur, to keep the display relevant. Thus, when an "additional visual icon" (claim 22) appears or one is "removed" (claim 23), the "auditory icon" representation must keep current with the display.

The matter of a "selected visual icon" prompting a presentation of "the auditory icon associated with" it (claims 24, 45) has been treated above with respect to claim 33, in noting that Hilpert produces audio indications of user-selected visual interface icons (see col 5, lines 13 – 43).

As also noted above with respect to claim 1, Hirohama reads upon "prioritizing a plurality of messages based on at least one context value" (claim 34), these being "specific to a user of the mobile terminal" (claim 35; in Hirohama, the language of the user at a guide area). As in claim 46, the "sound generator provides the audio icons" in such a "priority" arrangement: those "audio icons" that are indicated by the context have "priority" over those that are not.

As per the "proximity value" used as a parameter in claim 38, the proximity of Hirohama's "mobile terminal" governs which messages it will output.

Independent claim 42 is rejected for reasons similar to those given for the rejection of claim 19 above.

5. Applicant's arguments filed 19 October 2004 have been fully considered but they are not persuasive.

At page 11 of the remarks, applicant argues that, "unlike the present invention, Leonowich does not disclose 'prioritizing [a] plurality of messages,' but instead discloses

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a system for determining whether or not a signal from a specific device, in isolation, should be emitted.” However, this neglects the Leonowich capability to provide selective indications of alarms to the mobile device, and thus the assignment of priority to certain messages occurs when it is determined whether or not such an alarm is relevant. In any event, priority assignment on the basis of context is also clearly seen in Hirohama, where the mobile device selectively responds on the basis of position and language.

Contrary to applicant’s argument bridging pages 11 – 12, Hirohama is indeed analogous to Leonowich, in that in each case, message transmission to mobile users is selectively controlled. Applicant’s assertion that “the Office Action does not explain how Leonowich could even be modified to present ‘EARCON’ information upon “context”-sensitive criteria.” is met by noting that Leonowich’s selective presentation is entirely based upon whether a message should or should not be sent. Hirohama is readily adapted to assist in this regard, by applying contextual rules that are relevant to the user of a mobile device.

Specifically as to Hirohama, applicant argues at pages 12 – 13 that “Hirohama does not disclose, teach or suggest a method of ‘prioritizing a plurality of messages...based on at least one context value’ to determine which guide information to provide”. However, a form of priority is imposed upon the message content that is selectively delivered to the Hirohama user. At a given contextual situation, some information is provided, while other information is not. This means that a priority at least of display/non-display is being judged.

Moving on to the combination with Hilpert, applicant argues (page 13) that because Leonowich makes an observation that visual indicators are rendered useless once the operator leaves the room containing the indicator, "Leonowich teaches away from the use of visual indicators". However, this does not suggest that a visual indicator carried with a mobile device would not be considered useful in the Leonowich combination to use Hilpert's visual/auditory correlation. Leonowich is merely commenting upon the useless nature of visual displays that are at a fixed location.

6. Claims 5, 32, 36 – 37, 39 – 41 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

As outlined in the previous Office action, the use of an "artificial neural network to prioritize" (claims 5, 32) was not taught nor suggested by the prior art of record.

Upon reconsideration, it is further deemed that "displaying visual icons by relative size" in proportion to "priority" (claim 36) or "proximity value" (claim 39) are not taught nor suggested by the art of record. While priority *per se* is used in the selective presentation of auditory signals in Leonowich/Hirohama, and while a visual display having "icons" that correspond to an audible indication is seen in Hilpert, the relative sizes of Hilpert's "visual icons" is not disclosed as being dependent upon such parameters of relevance.

Similarly, "displaying visual icons consecutively in order of priority" (claims 37, 41) or "proximity value" (claim 40) is not fairly taught by a visual display such as Hilpert's, even in the obvious combination with the auditory message priority

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determination that occurs in Leonowich/Hirohama. Though Leonowich/Hirohama do teach the *per se* application of priority in deciding which auditory icons to render, a consecutive order such as in these claims is not seen as being useful in ordering a Hilpert display.

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Raymond J. Bayerl whose telephone number is (571) 272-4045. The examiner can normally be reached on M - Th from 9:00 AM to 4:00 PM ET.

9. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Cabeca, can be reached on (571) 272-4048. All patent application related correspondence transmitted by FAX **must be directed** to the central FAX number (703) 872-9306.

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10. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-2100.


RAYMOND J. BAYERL
PRIMARY EXAMINER
ART UNIT 2173

3 March 2005